PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Lau PCT-3008	**FOR FURTHER ACTION** See Form PCT/IPEA/416	
International application No. PCT/SE2003/002078	International filing date *(day/month/year)* 29.12.2003	Priority date *(day/month/year)* 02.01.2003
International Patent Classification (IPC) or national classification and IPC F01M 13/04		
Applicant Karlsson, Karl-Gunnar		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:

a. ☒ *(sent to the applicant and to the International Bureau)* a total of 1 sheets, as follows:

- ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s))

_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand 17.06.2004	Date of completion of this report 14.03.2005
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INTERNATIONAL PRE[redacted]NARY REPORT ON PATENTABILITY

[redacted]ational application No.
PCT/SE2003/002078

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

☐ the international application as originally filed/furnished

☒ the description:

pages 1-4 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☒ the claims:

pages _____ as originally filed/furnished
pages* _____ as amended (together with any statement) under Article 19
pages* 1 received by this Authority on 21.01.2005
pages* _____ received by this Authority on _____

☒ the drawings:

pages 1-2 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing *(specify)*: _____
☐ any table(s) related to the sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing *(specify)*: _____
☐ any table(s) related to the sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PR[redacted]INARY REPORT ON PATENTABILITY

[redacted]national application No.
PCT/SE2003/002078

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-4	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-4	NO
Industrial applicability (IA)	Claims	1-4	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document cited in the International Search Report:

D1: EP 0810352 A1

D1 discloses a combustion engine device for lowering the pressure of the air that builds up in the crankcase when the engine is running, and for separating undesired particles from the air, according to the preamble of claim 1.

Accordingly, a purifier device (15), comprising a filter member (20), is connected with its inlet (16) to the crankcase. The purifier device delivers clean air at its outlet (18), the clean air being led to the intake circuit (6) of the engine. Oil and particulates are led back to the crankcase via an outlet (24) and a duct (25).

Furthermore, the filter (20) is formed by a fibrous mass of non-woven synthetic polymer microfibres, substantially free from fibre-fibre bonds and mechanically linked to one another by entanglement or interlacing. The fibrous mass may be in the form of a pleated cylinder or as a pleated sheet, as shown in figure 2, extending between the ends of the purifier device (15).

The invention claimed in claim 1 differs from the known device in that the fibres are needled.

To let the fibres be needled, however, only seems to be a measure obvious to a person skilled in the art. The invention claimed in claim 1 is, therefore, not considered to involve an inventive step.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: V.

D1 (refer to figures 1-3, column 3, line 4- line 45) also discloses the features of the characterising parts of claims 2-4. Claims 2-4, therefore, also lack inventive step.

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The feature "the container" in claim 1 is in definite form without being explained previously. The feature should be in indefinite form.

The claims and the abstract should be provided with reference signs between parentheses (PCT Rule 6.2(b), Rule 8.1(d)).

PATENT CLAIMS

1. Combustion engine device for lowering the pressure of the air that builds up in the crankcase when the engine is running, and for separating undesired particles from said air, the device being:
characterised by a filter unit with its inlet connected to the crankcase, said filter unit delivering clean air at its outlet, this air being, preferentially, led to the engine's inlet manifold, and the separated particles being led back into the crankcase.

2. Device as per patent claim 1,
characterised by said filter unit being so arranged that, from said undesired particles, it separates solid particles that, preferentially, are collected separately.

3. Device as per patent claim 2,
characterised by the filter unit having the form of a container with a top face and a bottom face, the top face being connected to the crankcase and having an outlet for cleaned air, the bottom face having an outlet for the particles separated from the contaminated air.

4. Device as per patent claim 3,
characterised by the container having a fixed position in relation to the internal combustion engine.

5. Device as per patent claim 4,
characterised by the container having a predetermined angle in relation to the internal combustion engine.

6. Device as per one or more of the preceding patent claims,
characterised by the container having, between its faces, one or more walls/cylinders of a fibrous nature, the contaminated air having to pass through these walls/cylinders.

7. Device as per patent claim 6,
characterised by each wall/cylinder being comprised of fibre mats, in which the fibres have a diameter in the range 1 – 40 µm.

8. Device as per patent claim 7,
characterised by the possibility of the fibres being either needled or thermally bonded to each other.